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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,898

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Niels Werner Larsen

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EXAMINER

LUKS, JEREMY AUSTIN

ART UNIT

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2832

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,898	Applicant(s) LARSEN, NIELS WERNER	
	Examiner JEREMY LUKS	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 15-17 and 27 is/are rejected.
- 7) ☒ Claim(s) 10-14, 18-26, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/28/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-7 and 10-29 in the reply filed on 7/21/09 is acknowledged.

Claim Objections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 and 10-29 are objected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 15 recite the limitations "inflatable/extendable and collapsible/compressible...", and well as "the absorption coefficient and/or the resonance frequency..." The phrase "inflatable/extendable and collapsible/compressible," is indefinite because it is unclear if the terms separated by the slash are being referred to in combination, or in the alternative. Further, not everything that is extendable is inflatable, nor is everything that is compressible collapsible. Further, the and/or language is indefinite because it is unclear if the limitations are being used in combination or in the alternative.

Claim Objections

3. Claims 18-20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

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Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 18 is directed toward a method for reducing reverberation time of a room, and depends from claim 10, which is directed toward a sound absorbing assembly. The method claim fails to further limit the apparatus claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 15-17 and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Guilloud (6,332,027).

With respect to Claims 1 and 15, Guilloud teaches a sound-absorbing device (Figures 4-9) (see Title of Invention) which is placed in a sound field in air for absorbing acoustic energy from said sound field at least in a predetermined frequency region (Col. 6, Lines 25-32), the device comprising: partially resilient body (Figures 4 and 5, #12), characterized by an acoustic mass and compliance determining a resonance frequency and hence an active frequency region for substantial absorption of acoustic energy from said sound field (area exterior membrane #10) and an outer surface exhibiting a chosen acoustic resistance (Col. 1, Lines 35-65), into said sound, such that said sound field is in contact with at least a portion of an outer surface of said at least one body,

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whereby said at least one body will absorb acoustic energy from said sound field, the body (Figures 4 and 5, #12) containing one or more cavities (34), said body (12) including an outer surface (10) of the body (12) with at least a portion thereof is in contact with said sound field (Col. 4, Lines 37-44), and said body (12) being inflatable/extendable and collapsible/compressible (Col. 4, Line 18-50); and a means for actively varying a volume in said one or more cavities (34) during the supply of a gas to or removal of the gas (via conduit #38 or tube #54 for example) from said one or more cavities (34) in order to vary the absorption coefficient and/or the resonance frequency of said body and hence for actively determining the absorption coefficient and/or the frequency region in which maximum absorption take place (Col. 4, Line 49 – Col. 5, Line 25; Col. 6, Lines 25-32). Guilloud fails to explicitly teach wherein the predetermined frequency range is a low frequency range. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide wherein the predetermined frequency range is a low frequency range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working range involves only routine skill in the art. In re Aller, 105 USPQ 233. Further, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. If the prior art structure is capable of performing the intended use, then it meets the claim. Ex Parte Masham, 2 USPQ F.2d 1647 (1987). Further, the claimed method steps are necessitated by the product structure.

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With respect to Claims 2 and 3, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide wherein said low-frequency region has an upper frequency limit of approximately 200 Hz., and wherein the low-frequency region is 50 Hz to 125 Hz., since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working range involves only routine skill in the art. In re Aller, 105 USPQ 233.

With respect to Claims 4 and 16, Guilloud teaches wherein a material (Col. 3, Lines 27-36) of said body (Figures 4-9, #10) is chosen such that there exists a substantial impedance match between the body (12) and the surrounding sound field, at least in said low-frequency region (Col. 4, Lines 45-50; Col. 6, Lines 25-32). Further, the claimed method steps are necessitated by the product structure.

With respect to Claim 5, Guilloud teaches wherein said gas is supplied to/removed from said at least one cavity (Figure m5, #34) via a valve (constituted by movable plates 36 and 42) provided in a conduit (defined by channel #40) between said at least one cavity (34) and a source of that gas (via orifice #46), where the valve is provided with means for remote-controlling of the valve (Col. 4, Lines 27-67).

With respect to Claim 6, Guilloud teaches where the body (Figures 1, 4-9, #12) is furthermore provided with attachment means (24) for engagement with corresponding attachment means provided on one or more sound-absorbing devices (Col. 3, Lines 43-47).

With respect to Claim 17, Applicant's Specification states that the claimed equations for resonance frequency (Specification, Page 4, Lines 25-28), acoustic

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resistance ratio (Page 5, Lines 11-13), maximum absorption coefficient and absorption bandwidth (Page 5, Lines 14-19) are well known.

With respect to Claim 27, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. If the prior art structure is capable of performing the intended use, then it meets the claim. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987). The Examiner considers it to be well known in the art that absorbing sound in a room will function to alter reverberation time, as they limit the amount of early reflections that would occur without their presences, as well as change the dimensions of the open space in a room without their presence. Therefore, the sound absorbers of Guilloud are capable of altering the reverberation time of a room.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guilloud (6,332,027) in view of AAPA (Applicant's admitted Prior Art, Specification, Pages 1-7). Guilloud is relied upon for the reasons and disclosures set forth above. Guilloud teaches at least one or more cavities (Figures 4-7, #34). Guilloud fails to explicitly teach wherein at least one of said one or more cavities is provided with sound- absorbing material within said cavity. AAPA teaches wherein it is known to fill a cavity for sound absorbing material (Page 4, Lines 10-12). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Guilloud, with the apparatus of AAPA in order to increase sound absorbing capabilities of the device.

Allowable Subject Matter

6. Claims 10-14, 18-26, 28 and 29 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The Prior art of record fails to teach or suggest any obvious combination of the limitations of claim 1, and further comprising the limitations of: **(With respect to Claim 10)** a support or suspension structure provided with roller means upon which said devices can be wound and drive means for rotating said roller means.

8. Regarding claims 10-14, 21-26, 28 and 29, these claims would be allowable as indicated above, if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Regarding claims 18-20, these claims would be allowable as indicated above, if rewritten to overcome the objection(s) set forth in this Office action, and to include being rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record relating to methods, devices and systems for altering the reverberation time of a room are disclosed in the PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy Luks/
Examiner, Art Unit 2832

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/Jeffrey Donels/
Primary Examiner, Art Unit 2832